EXHIBIT B

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THIRD PARTY REQUESTER'S CORRESPONDENCE ADDRESS

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2000 UNIVERSITY AVENUE

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DOCKETED

Date:

MAILED

APR 0 2 2008

CENTRAL REEXAMINATION UNIT

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. : 95000328
PATENT NO. : 6892211
ART UNIT : 3992

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above identified ex parte reexamination proceeding (37 CFR 1.550(f)).

Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
95/000,328	01/14/2008	6892211	347155-29	4693

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SWERNOFSKY LAW GROUP PC
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EXAMINER
WEAVER, SCOTT LOUIS

ART UNIT	PAPER NUMBER
3992	

MAIL DATE	DELIVERY MODE
04/02/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| *ORDER GRANTING/DENYING REQUEST FOR INTER PARTES REEXAMINATION* | Control No. 95/000,328 | Patent Under Reexamination 6892211 |
| | Examiner SCOTT L. WEAVER | Art Unit 3992 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

The request for *inter partes* reexamination has been considered. Identification of the claims, the references relied on, and the rationale supporting the determination are attached.

Attachment(s):   ☐ PTO-892   ☒ PTO/SB/08   ☒ Other: <u>DECISION ON REQUEST</u>

1. ☒ The request for *inter partes* reexamination is GRANTED.

    ☐ An Office action is attached with this order.

    ☒ An Office action will follow in due course.

2. ☐ The request for *inter partes* reexamination is DENIED.

This decision is not appealable. 35 U.S.C. 312(c). Requester may seek review of a denial by petition to the Director of the USPTO within ONE MONTH from the mailing date hereof. 37 CFR 1.927. EXTENSIONS OF TIME ONLY UNDER 37 CFR 1.183. In due course, a refund under 37 CFR 1.26(c) will be made to requester.

All correspondence relating to this *inter partes* reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of this Order.

Transmittal of Communication to Third Party Requester Inter Partes Reexamination	Control No. 95/000,328	Patent Under Reexamination 6892211	
	Examiner SCOTT L. WEAVER	Art Unit 3992	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address. --

Enclosed is a copy of the latest communication from the United States Patent and Trademark Office in the above-identified reexamination proceeding. 37 CFR 1.903.

Prior to the filing of a Notice of Appeal, each time the patent owner responds to this communication, the third party requester of the *inter partes* reexamination may once file written comments within a period of 30 days from the date of service of the patent owner's response. This 30-day time period is statutory (35 U.S.C. 314(b)(2)), and, as such, it <u>cannot</u> be extended. See also 37 CFR 1.947.

If an *ex parte* reexamination has been merged with the *inter partes* reexamination, no responsive submission by any *ex parte* third party requester is permitted.

All correspondence relating to this inter partes reexamination proceeding should be directed to the **Central Reexamination Unit** at the mail, FAX, or hand-carry addresses given at the end of the communication enclosed with this transmittal.

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CENTRAL REEXAMINATION UNIT

EX PARTE REEXAMINATION COMMUNICATION TRANSMITTAL FORM

REEXAMINATION CONTROL NO. : 95000328
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Where this copy is supplied after the reply by requester, 37 CFR 1.535, or the time for filing a reply has passed, no submission on behalf of the ex parte reexamination requester will be acknowledged or considered (37 CFR 1.550(g)).

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DECISION ON REQUEST FOR EX PARTE REEXAMINATION

Reexamination has been requested for claims 1-24 of U. S. Patent No. 6,892,211 to Hitz et al.
issued on May 10, 2005.

The 6,892,211 patent to Hitz was filed on Apirl 12, 2004 and claims priority to June 3, 1993
through a string of continuing applications which includes U.S. Patent No. 5,819,292 to Hitz
which is the subject of reexamination control No. 90/008,903.

The 6,892,211 patent claims priority under U.S.C. 120, as a continuation of application serial
number 09/954522, now U.S. Patent 6,721,764, filed 11 September 2001, which is a continuation
of application serial number 09/153,094, now U.S. Patent 6,289,356, filed 14 September 1998,
which is a continuation of application serial number 09/108,022, now U.S. Patent 5,963,962,
filed 30 June 1998, which is a continuation of application serial number 08/454,921, now U.S.
Patent 5,819,292, filed 31 May 1995, which is a continuation of application serial number
08/071,643, now abandoned, filed 3 June 1993.

A substantial new question of patentability (SNQ) claims 1-24 of U. S. Patent No. 6,892,211 to
Hitz, is raised by the present corrected request for Inter Parte reexamination (hereafter the
"Request") filed on January 14, 2008 for the reasons indicated below.

Substantial New Question of Patentability

For "a substantial new question of patentability'" (SNQ) to be present, it is only necessary that:

    A. The prior art patents and or printed publications raise a substantial question of
patentability regarding at least one claim, i.e., the teaching of the prior art patents and
printed publications is such that a reasonable examiner would consider the teaching to be
important in deciding whether or not the claim is patentable; it is not necessary that the prior art
establish a prima facie case of unpatentability; and

    B. The same question of patentability as to the claim has not been decided by the Office
in a previous examination or pending reexamination of the patent or in a final holding of
invalidity by the Federal Courts in a decision on the merits involving the claim.

    For any reexamination ordered on or after November 2, 2002, reliance on previously
Cited/considered art, i.e., "'old art, '"" does not necessarily preclude the existence of a substantial
new question of patentability (SNQ) that is based exclusively on that old art. Rather,
determinations on whether a SNQ exists in such an instance shall be based upon a fact-specific
inquiry done on a case-by-case basis. See MPEP 2642.

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Prosecution History

The 6,892,211 patent to Hitz et al. issued on May 10, 2005. A preliminary amendment was filed 8/26/2004 which canceled claims 1 and 2 and added new claims 3-26.

The Examiner summarized the invention as being "directed to a method and system for maintaining a file system wherein membership in multiple concurrently existing file systems is possible for each block. Root inodes are stored on the disk and in core memory, each constituting a consistent state of the file system, and wherein some blocks in the storage system belong to both consistent states of the file system." And further being "directed to a method and system for maintaining a file system in memory and on a storage system including one or more hard disks, including root inodes maintained on both the memory and the storage system, each of which points directly and indirectly to a set of blocks on said storage system and storing a consistent state of the file system, wherein some of the blocks are common to both consistent states of the file system."

The examiners reasons for allowance indicated , "The closest prior art of record, Chutani et al. ("The Episode File System") [which is described in the background of the invention section], teaches a file system which implements filesets, logical file systems that represent connected subtrees and allowing for efficient replication and backup of the file system." The reasons for allowance noted that in contrast to that claimed, "[h]owever, Chutani et al. fails to anticipate or render obvious the recited feature of maintaining on-disk and incore root inodes, each of which pointing directly and indirectly to blocks, some of the blocks being common between the on-disk and incore root inodes; wherein changes made to the file system are stored on blocks in memory buffers and not pointed to by said on-disk root inode, as in independent claims 3, 11 and 19." (renumbered as claims 1, 9, and 17 respectively).

Claim 1 of the patent reads as follows:

> 1. A method of maintaining a file system stored in a memory and on a storage system that includes one or more hard disks, said method comprising steps of:
>
> maintaining an on-disk root inode on said storage system, said on-disk root inode pointing directly and indirectly to a first set of blocks on said storage system that store a first consistent state of said file system; and
>
> maintaining an incore root inode in said memory, said incore root inode pointing directly and indirectly to buffers in said memory and a second set of blocks on said storage system, said buffers and said second set of blocks storing data and metadata for a second consistent state of said file system, said second set of blocks including at least some blocks in said first set of blocks, with changes between said first consistent state and said second consistent state being stored in said buffers and in ones of said second set of blocks not pointed to by said on-disk inode.

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Prior Art Relied on in the Request

Exhibit 1:   Quinlan, A Cached WORM File System, Software - Practice And Experience,
                Vol.21(12), 1289-1299, December 1991 ("Quinlan").

Exhibit 2:   Popek, Walker, The LOCUS Distributed System Architecture, MIT Press,
                Cambridge, Mass., 1985 ("Popek").

Exhibit 3:   Ylonen, Concurrent Shadow Paging: A new Direction for Database Research,
                Helsinki University of Technology, TKO-B86, 1992 ("Ylonen")

Exhibit 4:   Margo Ilene Seltzer, File System Performance and Transaction Support, Doctoral
                Dissertation, UC Berkeley, 1992 ("Seltzer").

Exhibit 5:   Schilling, Design and implementation of a fast file system for Unix with special
                consideration of technical parameters of optical storage media and multimedia
                applications, Thesis submitted to Technical University of Berlin on 5/23/1991,
                translated from German. ("Schilling"). All pages cited are to the English
                translation.

Exhibit 6:   Leffler, McKusick, et. al., 4. 3BSD Unix Operating System, Addison-Wesley
                Publishing Co., 1990 ("Leffler").

Exhibit 7:   Bach, The Design of the Unix Operating System, Prentice Hall, 1990 ("Bach").

Exhibit 8:   Rosenblum, Ousterhoot, The LFS Storage Manager, presented at USENIX Tech.
                Conf., Anaheim, CA, 1990 ("Rosenblum").

Exhibit 9:   Rosenblum, Ousterhoot, The Design and Implementation of a Log-Structured File
                System, Proceedings of the 13th ACM Symposium on OS Principles, 1991
                ("Rosenblum and Ousterhoot").

Exhibit 10:   Kent, Performance and Implementation Issues in Database Crash Recovery, Ph.D.
                Dissertation, Princeton University, 1985 ("Kent").

Exhibit 11:   U.S. Pat. No. 5,379,391 to Belsan et al. ("Belsan").

Exhibit 12:   U.S. Pat. No. 5,218,695 to Noveck et al. ("Noveck").

Exhibit 13:   Gray et al., The Recovery manager of the System R Database Manager, ACM,
                1981 (Gray).

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Exhibits 1-6 and 8-13 listed above were not considered by the Examiner during prosecution of
the application which became the Hitz '211 patent. Exhibit 7 was cited but not discussed during
prosecution of the application which became the '211 patent to Hitz.

Issues Raised in the Request

**Issue 1:   The Request alleges that an SNQ may be raised by Quinlan (Exhibit 1) with
respect to claims 1-24 of the 6,892,211 Hitz patent.**

It is agreed that Quinlan raises an SNQ over claims 1-24 of the '211 patent to Hitz.

Request pages 3-4 and 10-18 are hereby incorporated by reference from the request for
reexamination for their explanation of the teaching allegedly provided in Quinlan that was not
present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 3-4 and 10-11 provide an explanation of the relevance of the Quinlan
reference with respect to independent claim 1 of the '211 patent.

The request alleges that Quinlan teaches the use of a cache maintaining in-core copies of a subset
of the file system (p. 1290) using a copy-on-write technique (pp. 1291-92). After a block is
modified via copy-on-write in memory, its directory (inode) is also modified with a pointer to the
new location. Id. Periodically, the Quinlan file system atomically advances from one consistent
state to another by flushing the contents of the cache to disk, thereby forming a snapshot (p.
1292-95, Fig. 3). The active file system shares unmodified data blocks with the previous
snapshots (Quinlan, p. 1292). "In effect, the snapshot and the file system will split apart as the
file system is modified." (p. 1294). After a snapshot is taken, the in-core root inode pointing to
buffers and new blocks reflects changes from the previous consistent state: "The root of the file
system is moved to a write block. Note that changes to the file system are only visible through
the new root block; the file system remains unchanged when viewed through the old root." Id.
And as is illustrated in Fig. 3.

Quinlan was not previously considered during the examination of the application which became
the '211 Hitz patent as Quinlan was not before he examiner during prosecution of the application
which became the '211 patent. Given the above teachings there is a substantial likelihood that a
reasonable examiner would consider Quinlan important in deciding the patentability of the
claims of the '211 patent during prosecution of the application which became the '211 patent.

The Quinlan reference was not before the examiner during prosecution of the application which
became the '211 patent (i.e., the teachings are "new"). The teachings of Quinlan discussed herein
are not cumulative to any written discussion on the record of the teachings of the prior art, were

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not previously considered nor addressed during a prior examination, and the same question was
not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner
would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Quinlan raises a substantial new question of patentability as to claims 1-24 of the
'211 patent to Hitz.

Issue 2:   **The Request alleges that an SNQ may be raised by Popek (Exhibit 2) in**
                    combination with Ylonen (Exhibit 3) with respect to claims 1-24 of the
                    6,892,211 Hitz patent.

It is agreed that Popek raises an SNQ over claims 1-24 of the '211 patent to Hitz as presented in
the request.

Request pages 4 and 19-27 are hereby incorporated by reference from the request for
reexamination for their explanation of the teaching allegedly provided in Popek that was not
present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 4 and 19-20 provide an explanation of the relevance of the Popek reference
with respect to independent claim 1 of the '211 patent.

The request alleges that Popek teaches that LOCUS maintains an on-disk inode that contains
"page numbers" or pointers to data blocks or to "intermediate node[s]" that point to data blocks
Sec. 3.3, pp. 33-34, Sec. 3.4.6, pp. 46-48. "A file is composed of an inode and an associated
ordered collection of data blocks." ld. at 34. "Additional mechanism is also present to support
large files that are structured through indirect pages that contain page pointers." Sec. 3.4.6, p. 47.
The logical pages or data blocks taught in Popek are alleged to represent a consistent state of the
LOCUS file system.

Popek teaches that LOCUS maintains an "in-core copy of the disk inode." Sec. 3.4.6, p. 47.
LOCUS uses a shadow paging mechanism (copy-on-write) to update files without overwriting
data in place, Id. As logical pages (logical blocks) are updated, "it is necessary to keep track of
where the old and the new pages are. The disk inode contains the old page numbers. The in-core
copy of the disk inode starts with the old pages, but is updated with new page numbers as
shadow pages are allocated." ld. As logical pages are updated, they are periodically flushed to a
new location on disk. Id. As a result, the in-core inode points to a set of blocks on disk that
includes the old unchanged blocks and newly flushed blocks containing changes, as well as to
memory buffers that have not yet been flushed. The sum total of these buffers and blocks
inherently represents a second consistent state of the LOCUS file system.

Popek was not previously considered during the examination of the application which became
the '211 Hitz patent as Popek was not before he examiner during prosecution of the application

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which became the '211 patent. Given the above teachings there is a substantial likelihood that a
reasonable examiner would consider Popek important in deciding the patentability of the claims
of the '211 patent during prosecution of the application which became the '211 patent.

The Popek reference was not before the examiner during prosecution of the application which
became the '211 patent (i.e., the teachings are "new"). The teachings of Popek discussed herein
are not cumulative to any written discussion on the record of the teachings of the prior art, were
not previously considered nor addressed during a prior examination, and the same question was
not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner
would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Popek raises a substantial new question of patentability as to claims 1-24 of the
'211 patent to Hitz.

Issue 3:   **The Request alleges that an SNQ may be raised by Seltzer (Exhibit 4) with
respect to claims 1-6, 9-14, 17-22 of the 6,892,211 Hitz patent.**

It is agreed that Seltzer raises an SNQ over claims 1-6, 9-14, 17-22 of the '211 patent to Hitz.

Request pages 5 and 27-34 are hereby incorporated by reference from the request for
reexamination for their explanation of the teaching allegedly provided in Seltzer that was not
present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 5 and 27-28 provide an explanation of the relevance of the Seltzer reference
with respect to independent claim 1 of the '211 patent.

The request alleges that Seltzer teaches that the LFS file system maintains an on-disk root inode
that points directly and indirectly to a first set of storage blocks on disk in a consistent state. *See
e.g.* Sec. 5.2.1.3 at p. 59, Sec.6.1.1 at pp.70-71. This is further illustrated in Fig. 5-5, page 59.

Seltzer teaches an in-memory inode containing the physical representation of the file system
layout (Sec. 5.2.1.3, p. 59, Fig. 5-5). The in-memory inode "additionally includes lists of buffers
and links to other inodes .... The in-memory inode is extended to have a list of transaction-
protected buffers in addition to its clean and dirty buffer lists." *Id.* "When a file is written, the
new data blocks are appended to the log, and the index structure and indirect blocks are modified
(in memory) to contain the new disk address of the newly written block." Sec. 4.1, pp. 31-32.
Seltzer thus teaches that the in-memory inode represents a consistent up-to-date state of the file
system, pointing directly and indirectly to buffers containing new or modified data as well to the
unchanged blocks of data. Seltzer further teaches that "[w]hen writing, LFS gathers many dirty
pages and prepares to write them to disk sequentially in the next available segment. At that time,
LFS sorts the blocks by logical block number, assigns them disk addresses, and updates the
meta-data to reflect their addresses." Seltzer, Sec. 6.1.1, p. 71. Once some buffers holding dirty

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pages (changed data) are flushed to disk blocks, they, together with unchanged blocks extant on disk, constitute a second set of blocks. This second set of blocks, in combination with un-flushed dirty buffers, represent the up-to-date file system in a consistent state.

Seltzer was not previously considered during the examination of the application which became the '211 Hitz patent as Seltzer was not before he examiner during prosecution of the application which became the '211 patent. Given the above teachings there is a substantial likelihood that a reasonable examiner would consider Seltzer important in deciding the patentability of the claims of the '211 patent during prosecution of the application which became the '211 patent.

The Seltzer reference was not before the examiner during prosecution of the application which became the '211 patent (i.e., the teachings are "new"). The teachings of Seltzer discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Seltzer raises a substantial new question of patentability as to claims 1-6, 9-14, 17-22 of the '211 patent to Hitz.

Issue 4:   **The Request alleges that an SNQ may be raised by Schilling (Exhibit 5) with respect to claims 1-24 of the 6,892,211 Hitz patent.**

It is agreed that Schilling raises an SNQ over claims 1-24 of the '211 patent to Hitz.

Request pages 5-6 and 34-40 are hereby incorporated by reference from the request for reexamination for their explanation of the teaching allegedly provided in Schilling that was not present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 5-6 and 34-35 provide an explanation of the relevance of the Schilling reference with respect to independent claim 1 of the '211 patent.

The request alleges that the WoFS file system described by Schilling is based on the well-known Unix file structure (as implemented in industry-standard BSD file system), which includes a superblock (root inode), inodes with levels of indirection, and data blocks. Schilling, Sec. 1.2.2, p. 6. WoFS modifies this structure to account for the write once - read many (WORM) nature of the optical media. See e.g. Schilling, Sec. 12.3-1.2.4. The modified system retains superblocks, inodes (referred to as generation nodes or gnodes) and data blocks. Id. These structures are present on the WORM disks. See Schilling Sec. 1.2.5. WoFS uses copy-on- write techniques to achieve file system consistency, writing new versions of files to a previously unused area of the medium. See e.g. Schilling, Sec. 1.2.5.1, p. 12

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Schilling teaches a cache memory where an in-core copy of the on-disk file system structure is maintained. See Schilling, Sec. 1.4.2. Changes to the file system occur in the cached file system structure, which thereby diverges from the on-disk structure. See Schilling, Sec.1.2.7.
It is alleged that changed data is stored in buffers in the cache before being written to disk.

Schilling teaches that gnode updates are periodically forced to disk. Schilling, Sec.1.2.7.4, p. 20.
It is alleged that updated gnodes are buffered in the cache before being written to disk.

Schilling further teaches that the superblock is written to disk after data blocks and intermediate gnodes. Schilling, Sec. 1.2.7.2, p. 19. It is alleged that the updated superblock, pointing to buffered and on-disk gnodes and data blocks, is buffered in the cache before being forced to disk.

Schilling was not previously considered during the examination of the application which became the '211 Hitz patent as Schilling was not before he examiner during prosecution of the application which became the '211 patent. Given the above teachings there is a substantial likelihood that a reasonable examiner would consider Schilling important in deciding the patentability of the claims of the '211 patent during prosecution of the application which became the '211 patent.

The Schilling reference was not before the examiner during prosecution of the application which became the '211 patent (i.e., the teachings are "new"). The teachings of Schilling discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Schilling raises a substantial new question of patentability as to claims 1-24 of the '211 patent to Hitz.

Issue 5:   **The Request alleges that an SNQ may be raised by Leffler (Exhibit 6) in combination with Bach (Exhibit 7) with respect to claims 1-4, 9-12, 17-20 of the 6,892,211 Hitz patent.**

It is agreed that Leffler and Bach raise an SNQ over claims 1-4, 9-12, and 17-20 of the '211 patent to Hitz.

Request pages 6-7 and 41-45 are hereby incorporated by reference from the request for reexamination for their explanation of the teaching allegedly provided in Leffler and Bach that was not present in the prosecution of the application which became the '211 patent to Hitz.

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The request pages 6-7 and 41 provide an explanation of the relevance of the Leffler and Bach references with respect to independent claim 1 of the '211 patent.

The request alleges that Leffler describes maintaining an on-disk root inode pointing directly and indirectly to a set of blocks on disk in a consistent state: (Figure 7.6, sec 7.2).

Leffler discusses that a copy of the root inode (inode describing the root directory) and copies of lower level inodes and data blocks are maintained in memory (in-core) (Sec. 7.4, pp. 203-207). When the system writes new data, it allocates buffers in memory for the new data (See Sec. 7.5, pp. 211-12). Periodically, the buffers are flushed to disk during a sync process (See Sec. 7.4, p. 207).

It is alleged that the incore root inode in Leffler is updated to point to the new buffers and blocks. Bach (a conventional well known Unix textbook) supports the allegation and discloses that in Unix, the in-core inode is updated when data blocks change. Bach, Sec. 4.1, pp. 62-63.

Leffler was not previously cited and Bach was cited but not discussed during prosecution of the application which became the '211 patent to Hitz. Leffelr and Bach were not previously considered during the examination of the application which became the '211 Hitz patent as Leffler was not before he examiner during prosecution of the application which became the '211 patent. Given the above teachings there is a substantial likelihood that a reasonable examiner would consider Leffler important in deciding the patentability of the claims of the '211 patent during prosecution of the application which became the '211 patent.

The Leffler reference was not before the examiner during prosecution of the application which became the '211 patent (i.e., the teachings are "new"). The teachings of Leffler discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Leffler raises a substantial new question of patentability as to claims 1-24 of the '211 patent to Hitz.

Issue 6: **The Request alleges that an SNQ may be raised by the combination of Rosenblum, Ylonen and Leffler with respect to claims 1-24 of the 6,892,211 Hitz patent.**

It is agreed that Rosenblum raises an SNQ over claims 1-24 of the '211 patent to Hitz.

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Request pages 7 and 46-53 are hereby incorporated by reference from the request for
reexamination for their explanation of the teaching allegedly provided in Rosenblum that was
not present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 7 and 46 provide an explanation of the relevance of the Rosenblum
references with respect to independent claim 1 of the '211 patent.

The request alleges that Rosenblum maintains an on disk root inode. The format of the inodes
and indirect blocks is the same as in the standard Unix file system, which allegedly provides for
root inodes that directly and indirectly point to data blocks (Sec. 4.2.1, p.6).

Rosenblum teaches that file system metadata, including inodes, and data blocks are cached in
memory, where changes are accumulated before being forced to disk (Sec. 4.1, p. 5). Before
being forced to disk, the modified in-core root inode allegedly points to buffers in memory
containing modified data, new blocks already forced to disk, and old blocks with unmodified
data.

Rosenblum, Ylonen, and Leffler were not previously considered during the examination of the
application which became the '211 Hitz patent as Rosenblum, Ylonen , and Lefffler was not
before he examiner during prosecution of the application which became the '211 patent. Given
the above teachings there is a substantial likelihood that a reasonable examiner would consider
Rosenblum, Ylonen, and Leffler important in deciding the patentability of the claims of the '211
patent during prosecution of the application which became the '211 patent.

The Rosenblum, Ylonen , and Leffler reference was not before the examiner during prosecution
of the application which became the '211 patent (i.e., the teachings are "new"). The teachings of
Rosenblum, Ylonen , and Lefffler discussed herein are not cumulative to any written discussion
on the record of the teachings of the prior art, were not previously considered nor addressed
during a prior examination, and the same question was not the subject of a final holding of
invalidity in the Federal Courts. A reasonable examiner would consider the teachings important
in determining whether or not claim 1 is patentable.

Accordingly, Rosenblum, Ylonen , and Leffler raises a substantial new question of patentability
as to claims 1-24 of the '211 patent to Hitz.

Issue 7:   **The Request alleges that an SNQ may be raised by the combination of Kent,
                Popek and Ylonen with respect to claims 1- 3, 5-11, 13-19, 21-24 of the
                6,892,211 Hitz patent.**

It is agreed that Kent raises an SNQ over claims 1-24 of the '211 patent to Hitz.

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Request pages 7-8 and 54-65 are hereby incorporated by reference from the request for reexamination for their explanation of the teaching allegedly provided in Kent that was not present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 7-8 and 54-55 provide an explanation of the relevance of the Kent reference with respect to independent claim 1 of the '211 patent.

The request alleges that Kent discloses that database structures include the root, which points to the global version of each mapping page: "That is, the root defines the most recent, consistent state of the page table (Just as the page table defined the most recent, consistent state of the logical database.)" (Kent, p. 41, Fig. 3-4) and are alleged to be equivalent to root inode, intermediate inodes, and data blocks in a file system. These structures reside on disk and in-core in cache memory (Kent, pp. 28-31, 89-90).

The cache memory in Kent contains buffers that hold modified data blocks. Kent, p. 90. Kent describes a number of "primitives" - operations that allow the shadowing algorithm CRMshadow to "maintain[] buffers and.., flush[] them to disk." Kent, Sec. 3.5.2, p. 34.

The structure shown in Fig. 3-4 is held in-core, with the root pointing directly and indirectly to buffers storing metadata (such as page tables) and data. Before it is flushed to disk, the root also points to updated blocks on disk. Kent, Sec. 3.5.2, pp. 40-43. Kent teaches an atomic commit operation by flushing the root from cache memory to disk: "The final step (flushing the root) must be executed atomically, as it defines the line between transaction commit and abort. To commit, a transaction first flushes the subtree that corresponds to its modifications, and then the root." Kent, Sec. 3.5.2, pp. 42-43, pp. 46-47.

Kent , Popek and Ylonen were not previously considered during the examination of the application which became the '211 Hitz patent as Kent was not before he examiner during prosecution of the application which became the '211 patent. Given the above teachings there is a substantial likelihood that a reasonable examiner would consider Kent important in deciding the patentability of the claims of the '211 patent during prosecution of the application which became the '211 patent.

The Kent reference was not before the examiner during prosecution of the application which became the '211 patent (i.e., the teachings are "new"). The teachings of Kent discussed herein are not cumulative to any written discussion on the record of the teachings of the prior art, were not previously considered nor addressed during a prior examination, and the same question was not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Kent raises a substantial new question of patentability as to claims 1-24 of the '211 patent to Hitz.

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Issue 8:   **The Request alleges that an SNQ may be raised by the combination of
Rosenblum and Ousterhoot in view of Leffler with respect to claims 1-6, 9-
14, 17-22 of the 6,892,211 Hitz patent.**

It is agreed that Rosenblum and Oustershoot raises an SNQ over claims 1-6, 9-14, 17-22 of the
'211 patent to Hitz.

Request pages 8 and 65-71 are hereby incorporated by reference from the request for
reexamination for their explanation of the teaching allegedly provided in Rosenblum and
Oustershoot that was not present in the prosecution of the application which became the '211
patent to Hitz.

The request pages 8 and 65-66 provide an explanation of the relevance of the Rosenblum and
Oustershoot references with respect to independent claim 1 of the '211 patent.

The request alleges that Rosenblum and Oustershoot maintains an on disk root inode. The format
of the inodes and indirect blocks is allegedly the same as in the standard Unix file system, which
allegedly points to data blocks. See Rosenblum and Ousterhout, Sec. 3.1, p. 6.

Rosenblum and Ousterhout teaches that file system metadata, including inodes, and data blocks
are cached in memory, where changes are accumulated before being forced to disk. Rosenblum
and Ousterhout, Sec. 3, p. 3. Before being forced to disk, the modified in-core root inode
allegedly points to buffers in memory containing modified data, modified blocks, and old blocks
with unmodified data.

Rosenblum and Oustershoot and Leffler were not previously considered during the examination
of the application which became the '211 Hitz patent as Rosenblum and Oustershoot and Leffler
was not before he examiner during prosecution of the application which became the '211 patent.
Given the above teachings there is a substantial likelihood that a reasonable examiner would
consider Rosenblum and Oustershoot and Leffler important in deciding the patentability of the
claims of the '211 patent during prosecution of the application which became the '211 patent.

The Rosenblum and Oustershoot and Leffler reference was not before the examiner during
prosecution of the application which became the '211 patent (i.e., the teachings are "new"). The
teachings of Rosenblum and Oustershoot and Leffler discussed herein are not cumulative to any
written discussion on the record of the teachings of the prior art, were not previously considered
nor addressed during a prior examination, and the same question was not the subject of a final
holding of invalidity in the Federal Courts. A reasonable examiner would consider the teachings
important in determining whether or not claim 1 is patentable.

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Accordingly, Rosenblum and Oustershoot and Leffler raises a substantial new question of
patentability as to claims 1-6, 9-14, 17-22 of the '211 patent to Hitz.

Issue 9:   **The Request alleges that an SNQ may be raised by Belsan (Exhibit 11) with
             respect to claims 1, 9, and 17 of the 6,892,211 Hitz patent.**

It is agreed that Belsan raises an SNQ over claims 1, 9, and 17 of the '211 patent to Hitz.

Request pages 8-9 and 71-74 are hereby incorporated by reference from the request for
reexamination for their explanation of the teaching allegedly provided in Belsan that was not
present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 8-9 and 71-72 provide an explanation of the relevance of the Belsan reference
with respect to independent claim 1 of the '211 patent.

The request alleges that Belsan teaches a mapping table and a copy table, the mapping table (root
inode) is maintained on disk and contains pointers to data blocks stored on disk. Col. 7:46-66.
The mapping table is stored (backed up) on disk. Col. 6:36-39. Mapping tables store a. plurality
of pointers identifying data blocks. Col. 8:64-9:27, Figs. 2 and 3. The disclosed mapping table
points to blocks that store a consistent state.

Belsan further teaches that the mapping table is uploaded and modified in cache memory during
write transactions, constituting an incore root inode. Contents of the on-disk mapping table are
loaded into a cache hash table. See e.g. Col. 13:54-59. The disclosed file system uses copy-on-
write, so that a block to be written is first copied into cache memory and then is re-written
to a new location on disk. Col. 12:22-38; 13:42-14:6.

During a sequence of write operations, the cached mapping table and associated copy table point
to some data buffers in cache (buffers that are currently being written) as well as some modified
blocks The cached mapping table also points to unmodified blocks on disk, which are also
pointed to by the un-updated mapping table stored on-disk.

Belsan was not previously considered during the examination of the application which became
the '211 Hitz patent as Belsan was not before he examiner during prosecution of the application
which became the '211 patent. Given the above teachings there is a substantial likelihood that a
reasonable examiner would consider Belsan important in deciding the patentability of the claims
of the '211 patent during prosecution of the application which became the '211 patent.

The Belsan reference was not before the examiner during prosecution of the application which
became the '211 patent (i.e., the teachings are "new"). The teachings of Belsan discussed herein
are not cumulative to any written discussion on the record of the teachings of the prior art, were

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not previously considered nor addressed during a prior examination, and the same question was
not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner
would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Belsan raises a substantial new question of patentability as to claims 1, 9, and 17 of
the '211 patent to Hitz.

Issue 10:   **The Request alleges that an SNQ may be raised by Noveck (Exhibit 12) with
respect to claims 1, 9, and 17 of the 6,892,211 Hitz patent.**

It is agreed that Noveck raises an SNQ over claims 1, 9, and 17 of the '211 patent to Hitz.

Request pages 9 and 74-76 are hereby incorporated by reference from the request for
reexamination for their explanation of the teaching allegedly provided in Noveck that was not
present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 9 and 74 provide an explanation of the relevance of the Noveck reference with
respect to independent claim 1 of the '211 patent.

The request alleges that Noveck discloses an on-disk Unix inode, with direct and indirect blocks.
Col. 3:29-35, 3:60-63. Noveck further teaches an in-core inode, which is an image of the on-disk
inode, maintained in cache memory. Col. 6:25-31. As data in the file system is modified, the in-
core structure differs from the on-disk inode and data. Col. 7: 14-24. The in-core inode points
to blocks and buffers that have been modified since the on-disk inode was written.

Noveck was not previously considered during the examination of the application which became
the '211 Hitz patent as Noveck was not before he examiner during prosecution of the application
which became the '211 patent. Given the above teachings there is a substantial likelihood that a
reasonable examiner would consider Noveck important in deciding the patentability of the claims
of the '211 patent during prosecution of the application which became the '211 patent.

The Kent reference was not before the examiner during prosecution of the application which
became the '211 patent (i.e., the teachings are "new"). The teachings of Noveck discussed herein
are not cumulative to any written discussion on the record of the teachings of the prior art, were
not previously considered nor addressed during a prior examination, and the same question was
not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner
would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Noveck raises a substantial new question of patentability as to claims 1, 9, and 17
of the '211 patent to Hitz.

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**Issue 11:   The Request alleges that an SNQ may be raised by Gray (Exhibit 13) with
respect to claims 1-6, 9-14, 17-22 of the 6,892,211 Hitz patent.**

It is agreed that Gray raises an SNQ over claims 1-6, 9-14, and 17-22 of the '211 patent to Hitz.

Request pages 9-10 and 76-81 are hereby incorporated by reference from the request for
reexamination for their explanation of the teaching allegedly provided in Gray that was not
present in the prosecution of the application which became the '211 patent to Hitz.

The request pages 9-10 and 76-77 provide an explanation of the relevance of the Gray reference
with respect to independent claim 1 of the '211 patent.

The request alleges that Gray discloses a copy of a page table is (equivalent to an inode) and data
pages are (equivalent to data blocks) as well as a directory root which is (equivalent to root
inode) is cached in memory and resident on disk (Sec. 2.1, Sec. 2.7, Fig. 10). Gray teaches that
the database takes periodic checkpoints, representing consistent system states by flushing the
cache to disk and then writing to disk an updated directory root (Sec. 2.7, Fig. 10). The request
alleges that the in-memory copy of the directory root points to buffers and blocks representing
the database in a present consistent state. Changes between the present consistent state and the
check pointed previous state are allegedly stored in buffers and blocks.

Gray was not previously considered during the examination of the application which became the
'211 Hitz patent as Gray was not before he examiner during prosecution of the application which
became the '211 patent. Given the above teachings there is a substantial likelihood that a
reasonable examiner would consider Gray important in deciding the patentability of the claims of
the '211 patent during prosecution of the application which became the '211 patent.

The Gray reference was not before the examiner during prosecution of the application which
became the '211 patent (i.e., the teachings are "new"). The teachings of Gray discussed herein
are not cumulative to any written discussion on the record of the teachings of the prior art, were
not previously considered nor addressed during a prior examination, and the same question was
not the subject of a final holding of invalidity in the Federal Courts. A reasonable examiner
would consider the teachings important in determining whether or not claim 1 is patentable.

Accordingly, Gray raises a substantial new question of patentability as to claims 1-6, 9-14, 17-22
of the '211 patent to Hitz.

Conclusion

Claims 1-24 of the '211 Hitz patent will be reexamined.

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Extensions of time under 37 CFR 1.136(a) do not apply in reexamination proceedings. The provisions of 37 CFR 1.136 apply only to "an applicant" and not to parties in a reexamination proceeding. Further, in 35 U.S.C. 305 and in 37 CFR 1.550(a), it is required that reexamination proceedings "will be conducted with special dispatch within the Office."

Extensions of time in reexamination proceedings are provided for in 37 CFR 1.550(c). A request for extension of time must be filed on or before the day on which a response to this action is due, and it must be accompanied by the petition fee set forth in 37 CFR 1.17(g). The mere filing of a request will not effect any extension of time. An extension of time will be granted only for sufficient cause, and for a reasonable time specified.

The Patent Owner is reminded of the continuing responsibility under 37 CFR 1.565(a) to apprise the Office of any litigation activity, or other prior or concurrent proceeding, involving U.S. Patent No. 6,044,062 throughout the course of this reexamination proceeding. The third party requester is also reminded of the ability to similarly apprise the Office of such activity or proceeding throughout the course of this reexamination proceeding. See MPEP §§ 2207, 2282, and 2286.

This reexamination proceeding has been filed by a third party requester, or has been merged with another proceeding filed by a third party requester. Accordingly, the parties to this reexamination proceeding are reminded that, in accordance with 37 CFR 1.550(f) , any document filed by either the patent owner or the third party requester must be served on the other party in the reexamination proceeding (or parties, where two or more third party requester proceedings are merged), **in the manner provided by 37 CFR 1.248**. If the document filed with the Office does not include a proper certificate of service, the document may be refused consideration by the Office. See MPEP 2220 and 2266.03.

> 37 CFR 1.550(f) provides:
>
> *"The reexamination requester will be sent copies of Office actions issued during the ex parte reexamination proceeding. After filing of a request for ex parte reexamination by a third party requester, any document filed by either the patent owner or the third party requester must be served on the other party in the reexamination proceeding in the manner provided by § 1.248. The document must reflect service or the document may be refused consideration by the Office."*

NOTICE RE PATENT OWNER'S CORRESPONDENCE ADDRESS

Effective May 16, 2007, 37 CFR 1.33(c) has been revised to provide that:

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The patent owner's correspondence address for all communications in an *ex parte* reexamination
or an *inter partes* reexamination is designated as the correspondence address of the patent.

Revisions and Technical Corrections Affecting Requirements for Ex Parte and
Inter Partes Reexamination, 72 FR 18892 (April 16, 2007)(Final Rule)

The correspondence address for any pending reexamination proceeding not having the
same correspondence address as that of the patent is, by way of this revision to 37 CFR
1.33(c), automatically changed to that of the patent file as of the effective date.

This change is effective for any reexamination proceeding which is pending before the Office as
of May 16, 2007, including the present reexamination proceeding, and to any reexamination
proceeding which is filed after that date.

In the event the patent owner's correspondence address listed in the papers (record) for the
present proceeding is different from the correspondence address of the patent, it is strongly
encouraged that the patent owner affirmatively file a Notification of Change of Correspondence
Address in the reexamination proceeding and/or the patent (depending on which address patent
owner desires), to conform the address of the proceeding with that of the patent and to clarify the
record as to which address should be used for correspondence.

All correspondence relating to this inter partes reexamination proceeding should be
directed to:

Mail Stop *Inter Partes* Reexam
Attn: Central Reexamination Unit
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Please FAX any communications to:
571-273-9900
Central Reexamination Unit

Please hand-deliver any communications to:
Customer Service Window
Attn: Central Reexamination Unit

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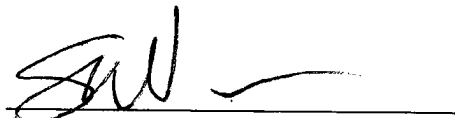95/000,328
Art Unit: 3992

Randolph Building, Lobby Level
401 Dulany St.
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the
examiner, or as to the status of this proceeding, should be directed to the Central Reexamination
Unit at telephone number (571) 272-7705.

Telephone Numbers for reexamination inquiries:
Reexamination and Amendment Practice   (571) 272-7703
Central Reexam Unit (CRU)   (571) 272-7705
Reexamination Facsimile Transmission No.   (571) 273-9900

Any inquiry concerning this communication or earlier communications from the Reexamination
Legal Advisor or Examiner, or as to the status of this proceeding, should be directed to the
Central Reexamination Unit at telephone number (571) 272-7705.

Conferees:

ESK

_A)_

Scott L. Weaver
Central Reexamination Unit, Primary Examiner
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PTO/SB/08a (11-07)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

		Complete if Known
Patent Number	6,82,211
Issue Date	May 10, 2005
First Named Inventor	Hitz et al.
Art Unit	N/A
Examiner Name	N/A

| Sheet | 1 | of | 2 | Attorney Docket Number | 347155-29 |

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No.¹	Document Number Number-Kind Code² *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
/SLW/		US- 5,379,391	01-03-1995	Belsan et al.	
/SLW/		US- 5,218,695	06-08-1993	Noveck	
		US-			
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FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.¹	Foreign Patent Document Country Code³ "Number⁴ "Kind Code⁵ *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T⁶

Examiner Signature	/Scott Weaver/		Date Considered	04/01/2008

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. ¹Applicant's unique citation designation number (optional). ²See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Substitute for form 1449B/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Patent Number	6,892,211
				Issue Date	May 10, 2005
				First Named Inventor	Hitz et al.
				Art Unit	N/A
				Examiner Name	N/A
Sheet	2	of	2	Attorney Docket Number	347155-29

NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
/SLW/		Quinlan, *A Cached WORM File System*, Software – Practice And Experience, Vol. 21(12), 1289-1299, December 1991 ("Quinlan").	
/SLW/		Popek, Walker, *The LOCUS Distributed System Architecture*, MIT Press, Cambridge, Mass., 1985 ("Popek").	
/SLW/		Ylonen, *Concurrent Shadow Paging: A new Direction for Database Research*, Helsinki University of Technology, TKO-B86, 1992 ("Ylonen").	
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/SLW/		Schilling, *Design and implementation of a fast file system for Unix with special consideration of technical parameters of optical storage media and multimedia applications*, Thesis submitted to Technical University of Berlin on 5/23/1991, translated from German. ("Schilling"). All pages cited are to the English translation.	
/SLW/		Leffler, McKusick, et. al., *4.3BSD Unix Operating System*, Addison-Wesley Publishing Co., 1990 ("Leffler").	
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/SLW/		Kent, *Performance and Implementation Issues in Database Crash Recovery*, Ph.D. Dissertation, Princeton University, 1985 ("Kent").	
/SLW/		Gray et al., *The Recovery Manager of the System R Database Manager*, ACM, 1981 ("Gray").	

Examiner Signature	/Scott Weaver/		04/01/2008